AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-43. (canceled)

44. (currently amended) Monocyte-derived antigen-presenting cells (MD-APCs) having been produced by differentiating blood monocytes in vitro, in the ~~presence~~ of lymphocytes, GM-CSF and at least one ligand having a receptor on the surface of monocytes, said MD-APCs having, when compared with monocyte derived macrophages prepared in the presence of GM-CSF only, higher phagocytic properties of formalin fixed yeast and a higher capacity for antigen presentation evidenced by the ability of said MD-APCs to stimulate the proliferation of ~~higher ability for stimulation of~~ allogenic T lymphocytes, wherein said capacity for antigen presentation is as measured by an allogenic primary mixed lymphocyte reaction (MLR) test, and wherein said phagocytic properties are as evidenced by an uptake of formalin-fixed yeast after culturing MD-APCs for 2 hours, adding yeast in 1/10 MD-APC/yeast ratio and incubating at 37 C, 5% CO_2 atmosphere for 2-3 hours fixing by the May Grünwald-Giemsa (MGG) staining, and a percentage of phagocytic MD-APCs being quantified by microscopic analysis.

45-48. (cancelled)

49. (previously presented) The Monocyte-derived antigen-presenting cells (MD-APCs) of claim 44, wherein said MD-APCs are substantially devoid of surface antigen CD83.

50. (previously presented) The Monocyte-derived antigen-presenting cells (MD-APCs) of claim 44, wherein said MD-APCs present adherent properties as determined by MD-APCs culture for 2 hours in culture medium of one of I.M.D.M. and R.P.M.I. on plastic flasks and the percentage of adherent cells is quantified by microscopic analysis.--

51-90. (canceled)

91. (new) The Monocyte-derived antigen-presenting cells (MD-APCs) according to claim 44, wherein the at least one ligand having a receptor on the surface of monocytes is IL-13.

92. (new) The Monocyte-derived antigen-presenting cells (MD-APCs) according to claim 44, wherein the at least one ligand having a receptor on the surface of the molecules is cimetidine and said cimetidine is in combination with histamine.

93. (new) The Monocyte-derived antigen-presenting cells (MD-APCs) according to claim 44, wherein said monocyte-derived antigen-presenting cells are prepared by a process comprising:

preparing a peripheral blood composition containing leukocytes taken from healthy donors or from patients by apheresis, wherein said composition;

removing platelets and anticoagulant from the apheresis product;

isolating mononuclear cells comprising monocytes and lymphocytes from red cells and granulocytes;

culturing said mononuclear cells by placing them in hydrophobic bags in an appropriate culture medium for a time sufficient to obtain differentiated MD-APCs and wherein the at least one ligand having a receptor on the surface of the monocytes is IL-13, or a combination of histamine and cimetidine;

isolating said MD-APCs from the lymphocytes; and

recovering said MD-APCs.

94. (new) The Monocyte-derived antigen-presenting cells (MD-APCs) according to claim 93, wherein the culture medium contains histamine and cimetidine in combination with additional GM-CSF, wherein histamine is present at a concentration of about 10^{-2} M to about 10^{-6} M, wherein the cimetidine is present at a concentration of about 10^{-4} M to about 10^{-9} M, and wherein GM-CSF is present at a concentration of about 50 U/ml to about 1000 U/ml.

95. (new) The Monocyte-derived antigen-presenting cells (MD-APCs) according to claim 93, wherein the culture medium contains IL-13 and additional GM-CSF, and wherein said additional GM-CSF is present at a concentration of about 50 U/ml to about 1000 U/ml.

96. (new) The Monocyte-derived antigen-presenting cells (MD-APCs) according to claim 93, wherein the mononuclear cells are cultured in hydrophobic bags and said hydrophobic bags are selected from the group consisting of ethylene vinyl acetate and polypropylene.

97. (new) Monocyte-derived antigen-presenting cells (MD-APCs) having been produced by differentiating non-adhered blood monocytes in vitro, in the presence of GM-CSF, and IL-13, said MD-APCs having, when compared with monocyte derived macrophages prepared in the presence of GM-CSF only, higher phagocytic properties and a higher capacity for antigen presentation as evidenced by the ability to stimulate the proliferation of allogenic lymphocytes as measured in an allogenic primary mixed lymphocyte reaction (MLR) test, and wherein said phagocytic properties are as evidenced by an uptake of formalin-fixed yeast after culturing MD-APCs for 2 hours, adding yeast in 1/10 macrophages/yeast ratio and incubating at 37 C, 5% CO_2 atmosphere for 2-3 hours fixing by the May Grünwald-Giemsa (MGG) staining, and the percentage of phagocytic MD-APCs quantified by microscopic analysis.

98. (new) The monocyte-derived antigen-presenting cells (MD-APCs) of claim 97, wherein said MD-APCs are substantially devoid of surface antigen CD83 as determined by immunofluorescence staining and flow cytometry analysis.

99. (new) The monocyte-derived antigen-presenting cells (MD-APCs) of claim 97, wherein said MD-APCs present adherent properties as determined by MD-APCs culture for 2 hours in culture medium of one of I.M.D.M. and R.P.M.I. on plastic flasks and the percentage of adherent cells is quantified by microscopic analysis.

100. (new) The monocyte-derived antigen-presenting cells (MD-APCs) of claim 98, wherein said MD-APCs present adherent properties as determined by MD-APCs culture for 2 hours in culture medium of one of I.M.D.M. and R.P.M.I. on plastic flasks and the percentage of adherent cells is quantified by microscopic analysis.

101. (new) The monocyte-derived antigen-presenting cells (MD-APCs) according to claim 97, wherein said MD-APCs are prepared by a process comprising:

preparing a peripheral blood composition containing leukocytes taken from healthy donors or from patients by apheresis;

removing platelets and anticoagulant from the apheresis product;

isolating mononuclear cells comprising monocytes and lymphocytes from red cells and granulocytes;

culturing said mononuclear cells by placing them in hydrophobic bags in an appropriate culture medium for a time

sufficient to obtain differentiated MD-APCs and wherein the at least one ligand having a receptor on the surface of the monocytes is IL-13;

separating said MD-APCs from the lymphocytes; and

recovering said MD-APCs.

102. (new) The monocyte-derived antigen-presenting cells (MD-APCs) according to claim 97, wherein the culture medium contains IL-13 and additional GM-CSF, said additional GM-CSF being present at a concentration of about 50 U/ml to about 1000 U/ml.

103. (new) The monocyte-derived antigen-presenting cells (MD-APCs) according to claim 97, wherein the mononuclear cells are cultured in hydrophobic bags and said hydrophobic bags are selected from the group consisting of ethylene vinyl acetate and polypropylene.

104. (new) Monocyte-derived antigen presenting cells (MD-APCs) expressing antigens CD14 and CD64, and antigens CD80 and CD86, wherein said MD-APCs exhibit a higher level of phagocytosis than monocyte-derived macrophages prepared in the presence of GM-CSF only, as evaluated by an uptake of formalin fixed yeast, by culturing MD-APCs for 2 hours, adding yeast in 1/10 MD-APCs /yeast ratio and incubating at 37°C, 5% CO_2 atmosphere for 2-3 hours fixing by the May-Grünwald-Giemsa (MGG) staining, and the percentage of phagocytic MD-APCs being quantified by microscopic analysis, and wherein said MD-APCs have

a higher capacity for antigen presentation than monocyte-derived macrophages prepared in the presence of GM-CSF only, as evidenced by the ability of said MD-APCs to stimulate the proliferation of allogenic lymphocytes as determined by a test wherein an allogenic primary mixed lymphocytes reaction was carried out in microtiter plates by adding different numbers of MD-APCs to 2×10^5 in 100 μl medium/well of allogenic T cells purified from buffy coats and after 5 days of incubation at 37°C, cell proliferation is assessed by a colorimetric method.